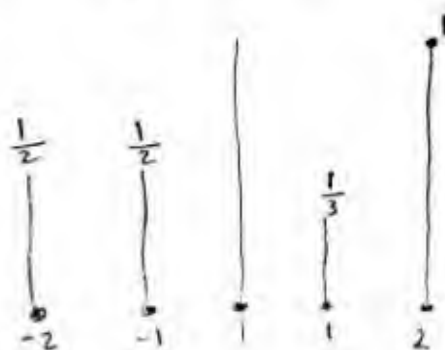
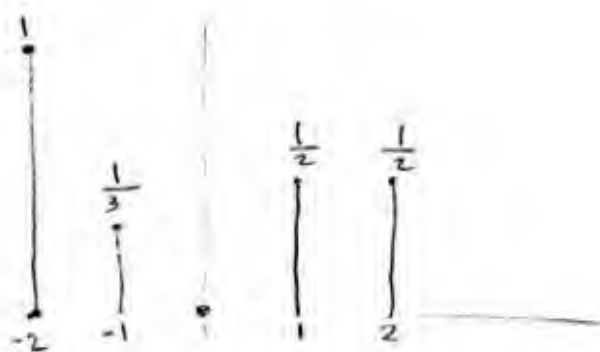


Sheet 1DSPSec 1

$$x(n) = \left\{ \frac{1}{2}, \frac{1}{2}, 0, \frac{1}{3}, 1 \right\}$$

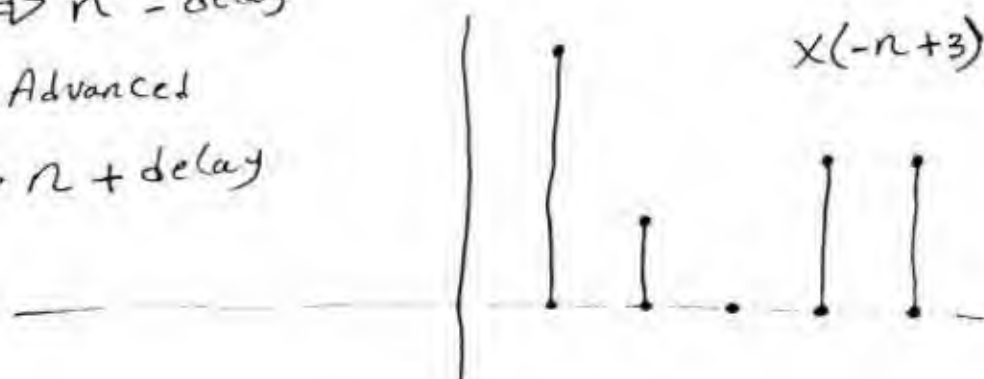
a) sketch

b) Folding $x(-n)$ 

c) shifting (delay) for b by 3

 $n \Rightarrow n - \text{delay}$

but for Advanced

 $n \Rightarrow n + \text{delay}$ 

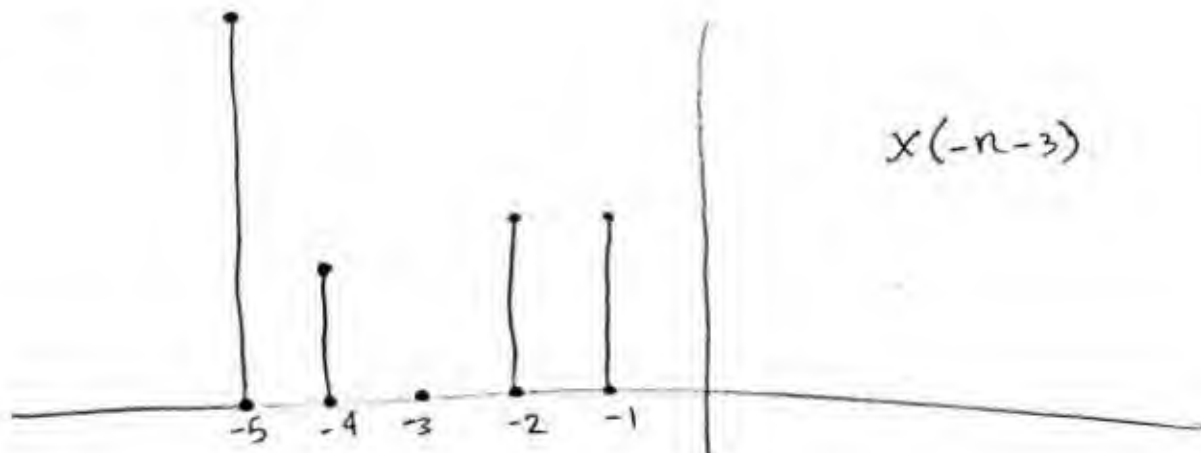
For the same example

$$x(n) = \left\{ \frac{1}{2}, \frac{1}{2}, 0, \frac{1}{3}, 1 \right\}$$

→ delay

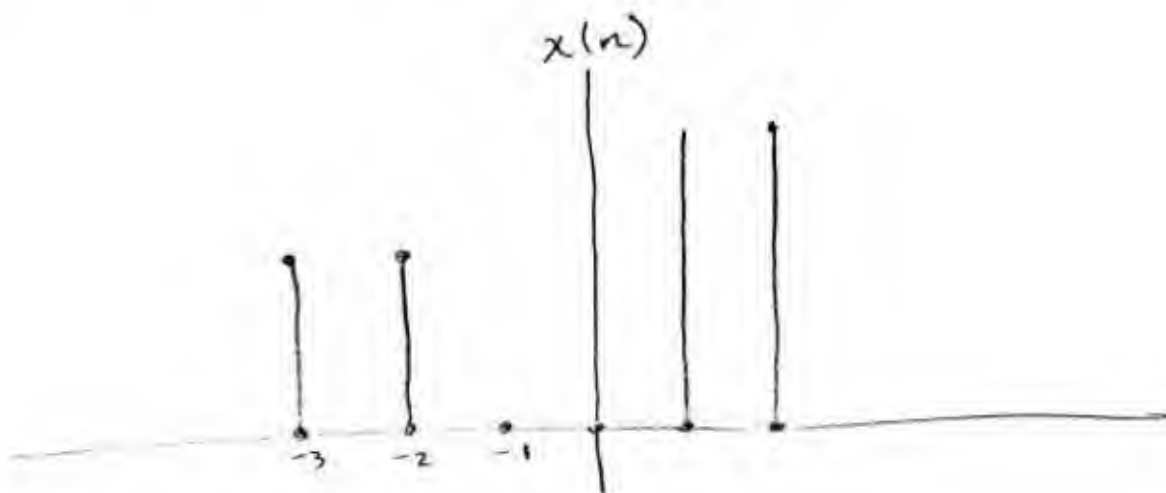


→ Folding

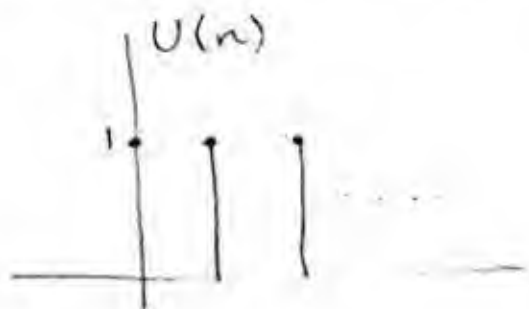


2 sec 1

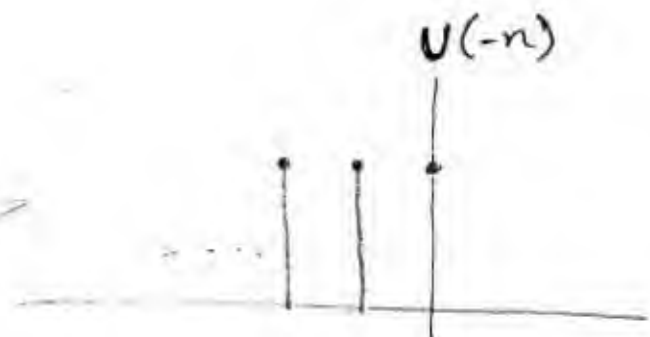
$$* \quad x(n) = \left\{ \frac{1}{2}, \frac{1}{2}, 0, 0, 1, 1 \right\}$$



$$\rightarrow x(n) \quad U(2-n)$$



\Rightarrow

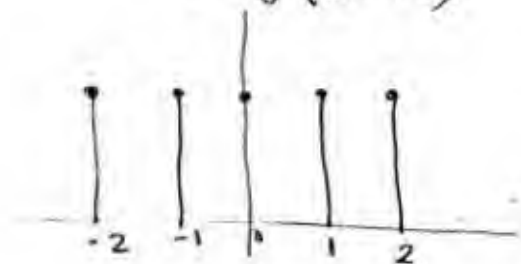


← هنا عملنا (Fold) ثم (shift)

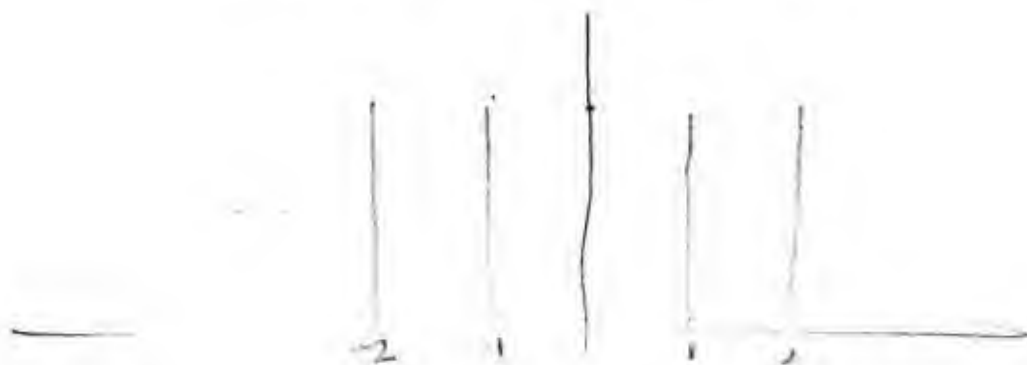
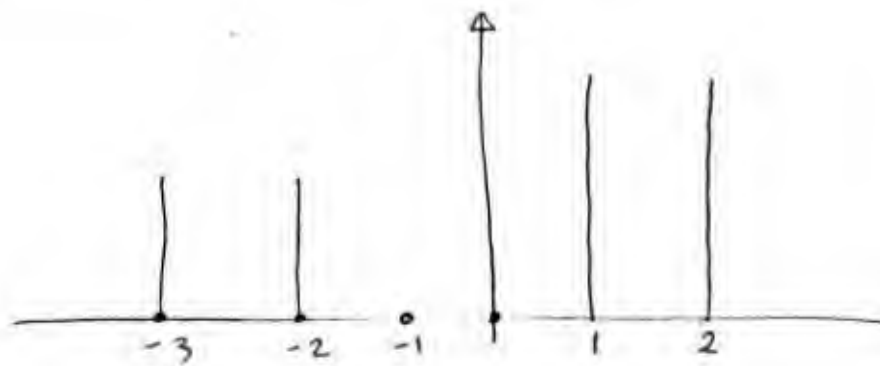
ليس لو جربت العكس (shift)

ثم (Fold) هيطلع نفس الناتج.

\Downarrow $U(2-n)$



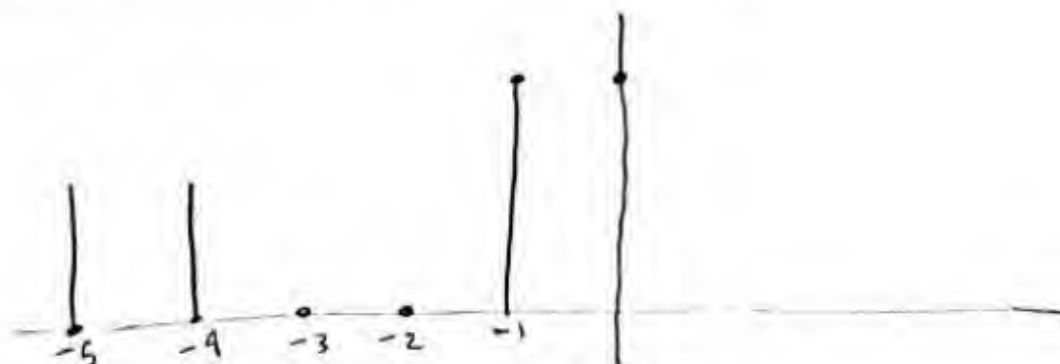
3 Sec 1



$$x(n) * U(2-n)$$

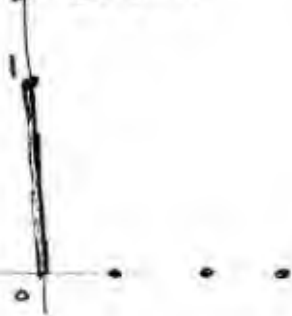


→ Find $x(n+2) \otimes \delta(n-2)$



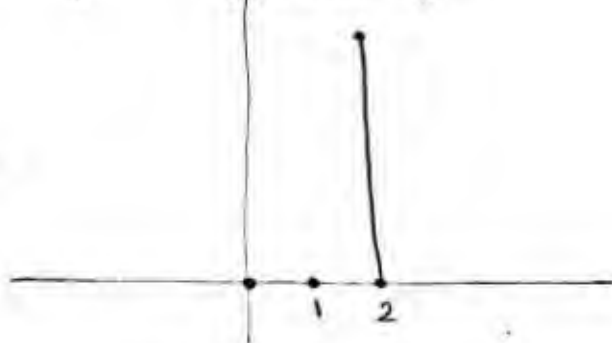
[4] sec 1

$\delta(n)$

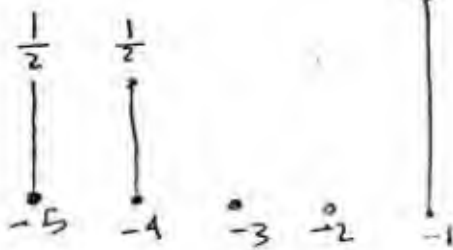


\Rightarrow

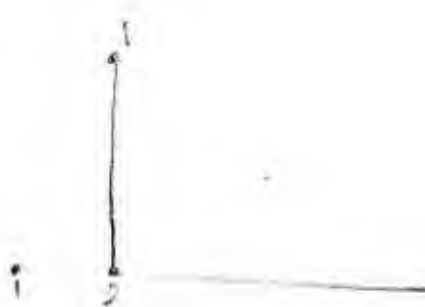
$\delta(n-2)$



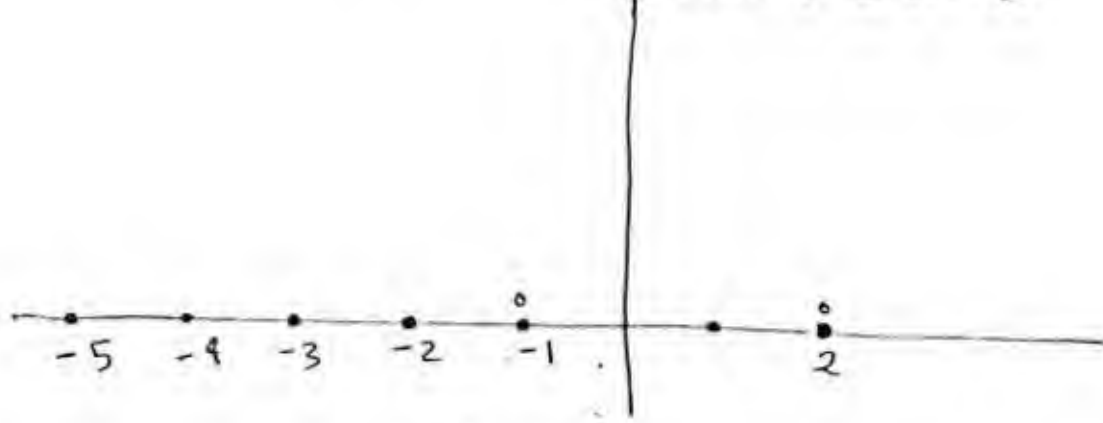
$x(n+2)$



$\delta(n-2)$

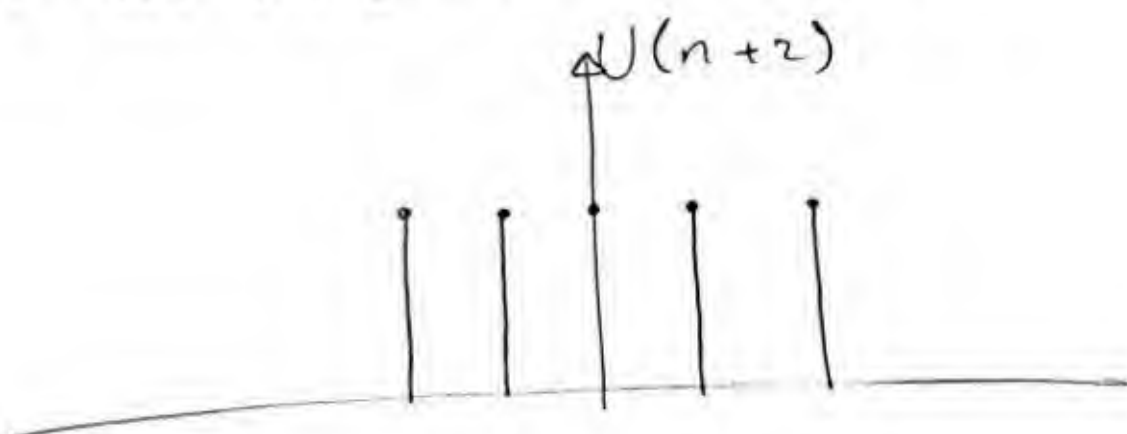


$x(n+2] \delta(n-2)$

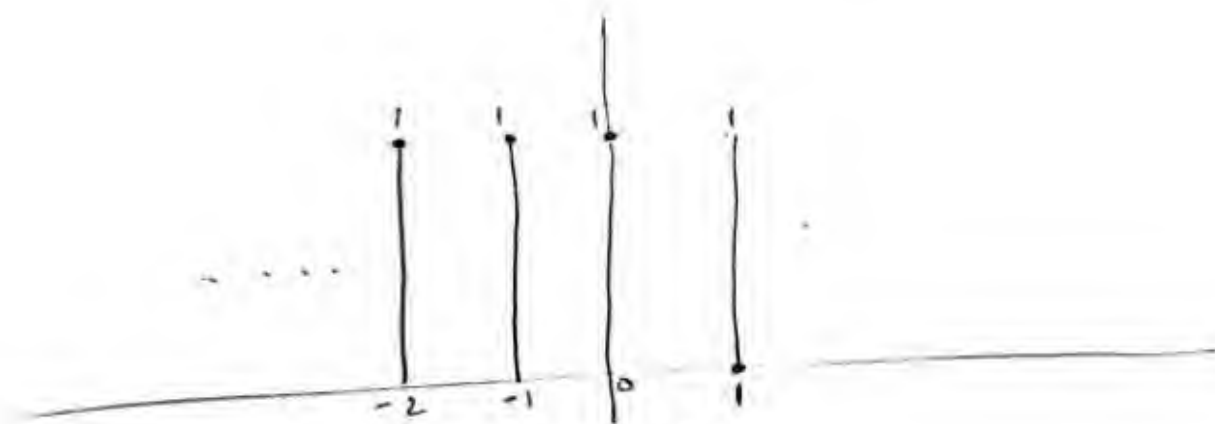
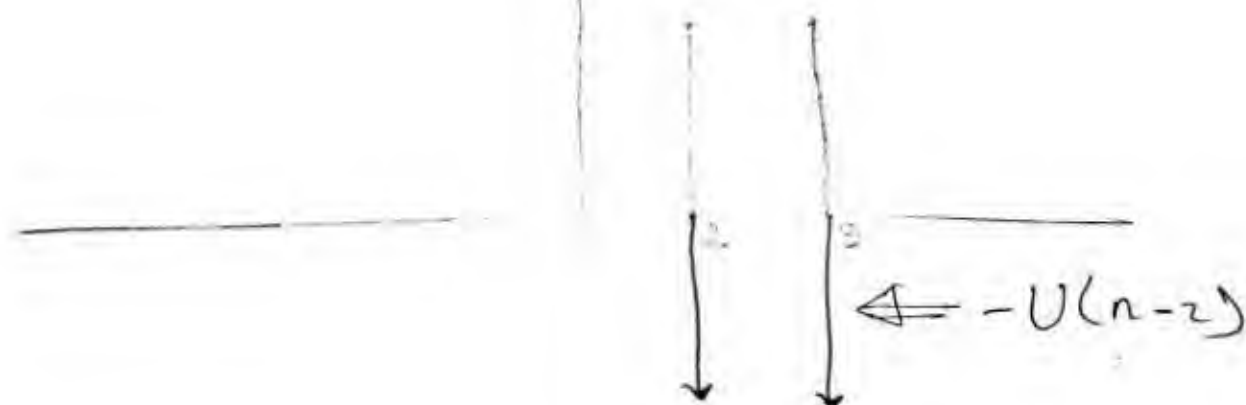


[5] Sec 1

$$* x(n) = V(n+2) - U(n-2)$$



$$\Delta U(n-2)$$



$$x(n) = \{1, 1, 1, 1\}$$



[6] sec 1

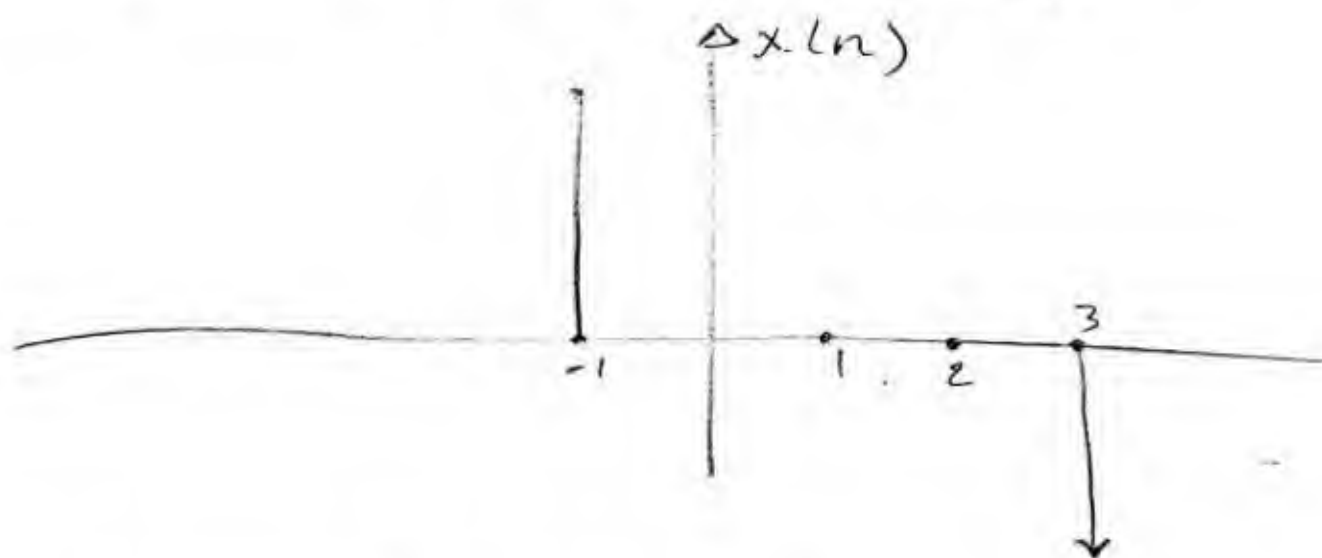
$$x(n) = U(n-2) \delta(n-4)$$

$$x(n) = \{0, 0, 0, 0, 1\}$$

← بمجرد النقط



$$* x(n) = \delta(n+1) - \delta(n-3)$$



$$x(n) = \{1, 0, 0, 0, -1\}$$

↑

7 sec 1

$$* \quad x(n) = U(n) + Y(n-2) - Y(n-5) \\ - Y(n-8) + Y(n-11)$$

Q₁: sketch

Report

$$Q_2: \quad x(n) = \left\{ 2, \underset{\uparrow}{1}, \frac{1}{2}, \frac{1}{4}, \frac{1}{8} \right\}$$

Find

$$\begin{array}{cc} x(-n-2) & \cdot & x(n-2) \\ x(n+2) & \cdot & x(-n+2) \end{array}$$

[8] sec 1